Tomas Bata University in Zlín
Faculty of Applied Informatics

OPPONENT´S EVALUATION OF THE DIPLOMA THESIS

Student: **Alerda Matrisi**   **Opponent:** **Ing. Tomáš Maliňák**

Study program: **Engineering Informatics**
Study discipline: **Security Technologies, Systems and Management**
Academic year: **2020/2021**

Thesis topic: **The analysis of decapsulated chip surface with optical microscopy**

Evaluation of the thesis:

The thesis has described using of polarised and stereo microscopy inspection methods to detect counterfeit electronic components. This theme is more and more actual in recent time. Theory part of the thesis describes types of counterfeit and defective components, general detection methods, principle and using of optical microscopy for detection problematic components.

Results part is describing image capturing operation for both methods. Spliced image using panorama modules is an interesting option of the Polarizing microscope. It is a pity, that other results are not more comprehensive regard to evaluation aimed at differences between genuine and counterfeit chips.

The thesis is well structured, author marks external quotations sources in the text. Small formal bug is few errors in Table of content. In spite of obstructions due to the pandemic situation, I recommend this thesis to be defended and suggest evaluation B – Very Good.

Questions:
1. What is the main advantage of polarised microscopy?
2. Would be beneficial to use monochrome light beside polarised light?
3. Figure 30 shows chip position out of limit. What is acceptable deviation and where is it defined ?

Overall evaluation of the thesis:
The Opponent shall grant a mark according to the ECTS classification scale:
A – Excellent, B – Very Good, C – Good, D – Satisfactory, E – Sufficient, F – Insufficient
An "F" grade also means "I do not recommend the thesis for defence."

I recommend this thesis to be defended and suggest the following evaluation:
B - Very Good
In the case of an evaluation grade of "F – Insufficient", please supply the main shortages and reasons for this assessment.

Date: 24. 8. 2021   Thesis Opponent's Signature: